



Armed Forces College of Medicine

AFCM



Tumors of Upper Respiratory Tract

Prof. Omnia Kamel Rizk



Good Morning

INTENDED LEARNING OBJECTIVES (ILO)



By the end of this lecture the student will be able to:

1. Enumerate benign and malignant tumors of the nose and nasopharynx
2. Explain nasopharyngeal fibroma
3. Describe pathological features of nasopharyngeal carcinoma
4. Discuss benign laryngeal tumors
5. Describe anatomical types and pathological features of

Lecture Plan



1. Part 1 (5 min) Introduction
2. Part 2 (35 min) Main lecture
3. Part 3 (5 min) Summary
4. Lecture Quiz (5 min)

Tumors of the nose and nasopharynx



I- Benign tumors:

A- Epithelial tumors:

1- Squamous cell papilloma: from the vestibule of the nose.

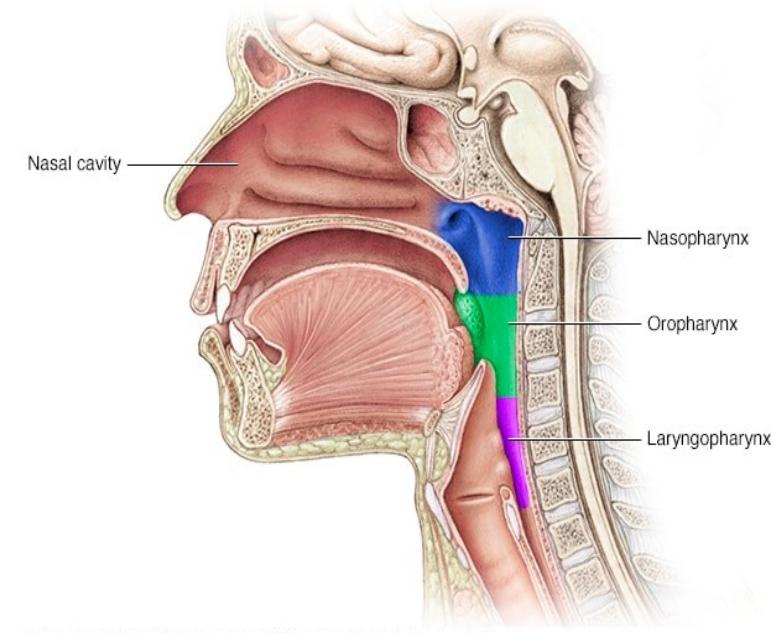
2- Inverted papilloma of the Schneiderian membrane (i.e. mucosa of the nose & sinuses): has a locally infiltrating growth pattern (not malignant) and tendency to recur after surgical removal.

3- Tumors of the minor salivary glands: pleomorphic adenoma and others.

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B- Mesenchymal tumors:

- 1- Nasopharyngeal angiofibroma.
- 2- Schwannoma.
- 3- Chondroma.



Tumors of the nose and nasopharynx



Malignant tumors:

A- Epithelial tumors:

- 1- Squamous cell carcinoma of the nose.
- 2- Transitional cell carcinoma.
- 3- Adenocarcinoma of the nose is a rare tumor, sometimes seen in wood workers.
- 4- Nasopharyngeal carcinoma (the commonest).

Mesenchymal tumors:

- 1- Embryonal rhabdomyosarcoma.
- 2- Nasal melanoma.
- 3- Olfactory neuroblastoma:
Arising at the
cribriform plate from olfactory
nerve.
- 4- Lymphoma: usually of high grade
and rapidly
growing course.

Nasopharyngeal fibroma (Juvenile angiofibroma)



A rare **benign** tumor of young males causing **epistaxis**.

- Occurs in early adolescence.
- The tumor usually regresses after puberty .
- Its chief hazard is **hemorrhage** specially at surgery.

Nasopharyngeal carcinoma

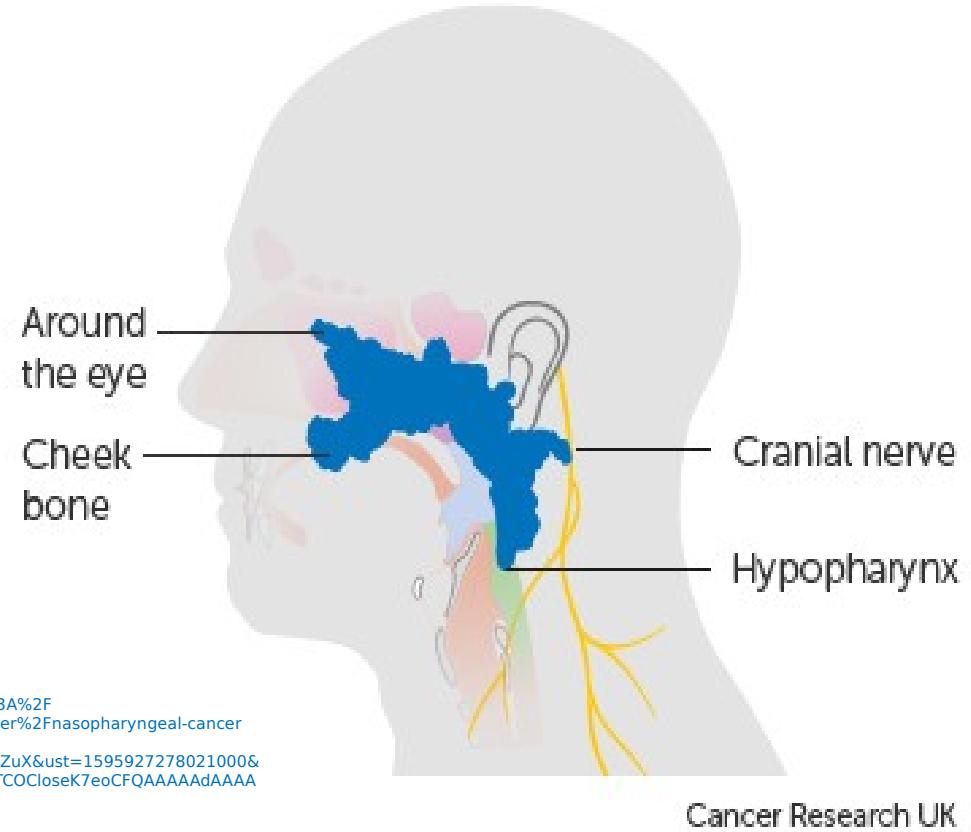


Etiology:

- Epstein-Barr virus infection
- Cigarette smoking.

Incidence: occurs in children and old age and has a specific geographic distribution (Africa [children] and Far East [adults])

The tumour has grown into one or more of these areas



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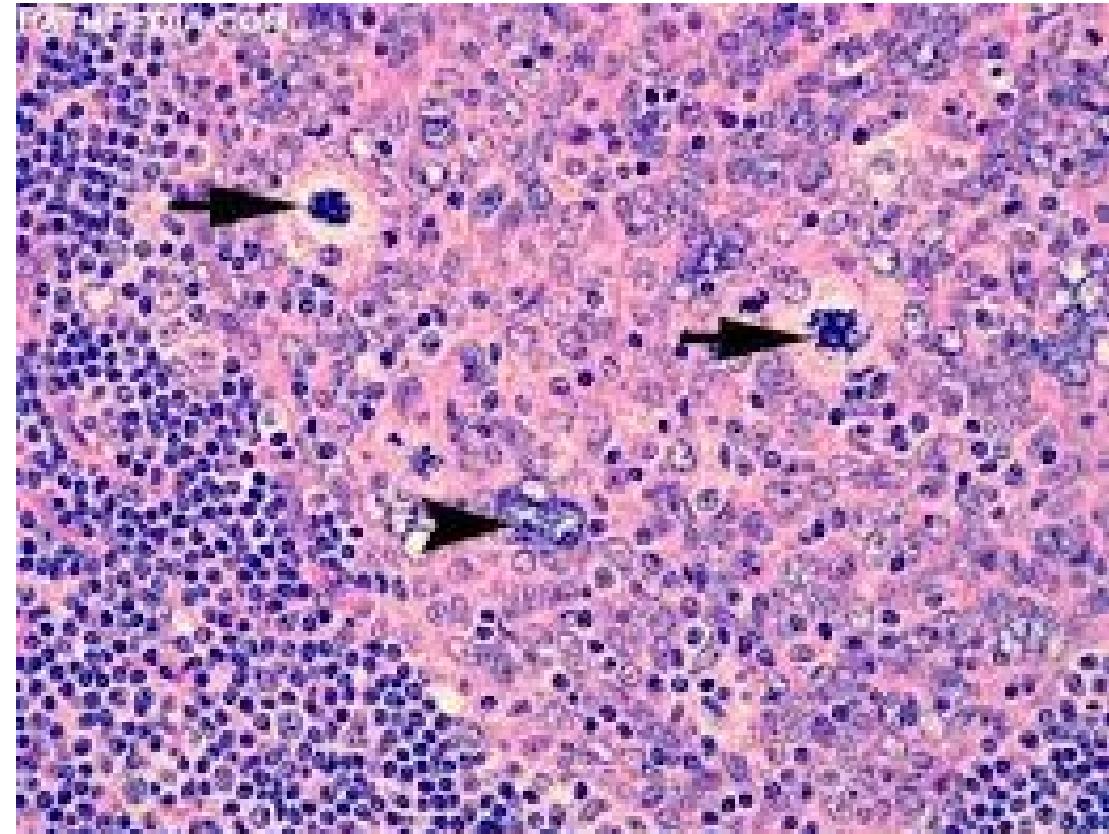


Nasopharyngeal carcinoma

Clinically: usually presents by cervical lymph node metastases before the primary tumor appears. It is highly radiosensitive.

Microscopically: may be

- 1-Keratinizing squamous cell carcinoma,
- 2-Non-keratinizing squamous cell carcinoma or
- 3-Undifferentiated carcinoma with excess *non-neoplastic* lymphocytes

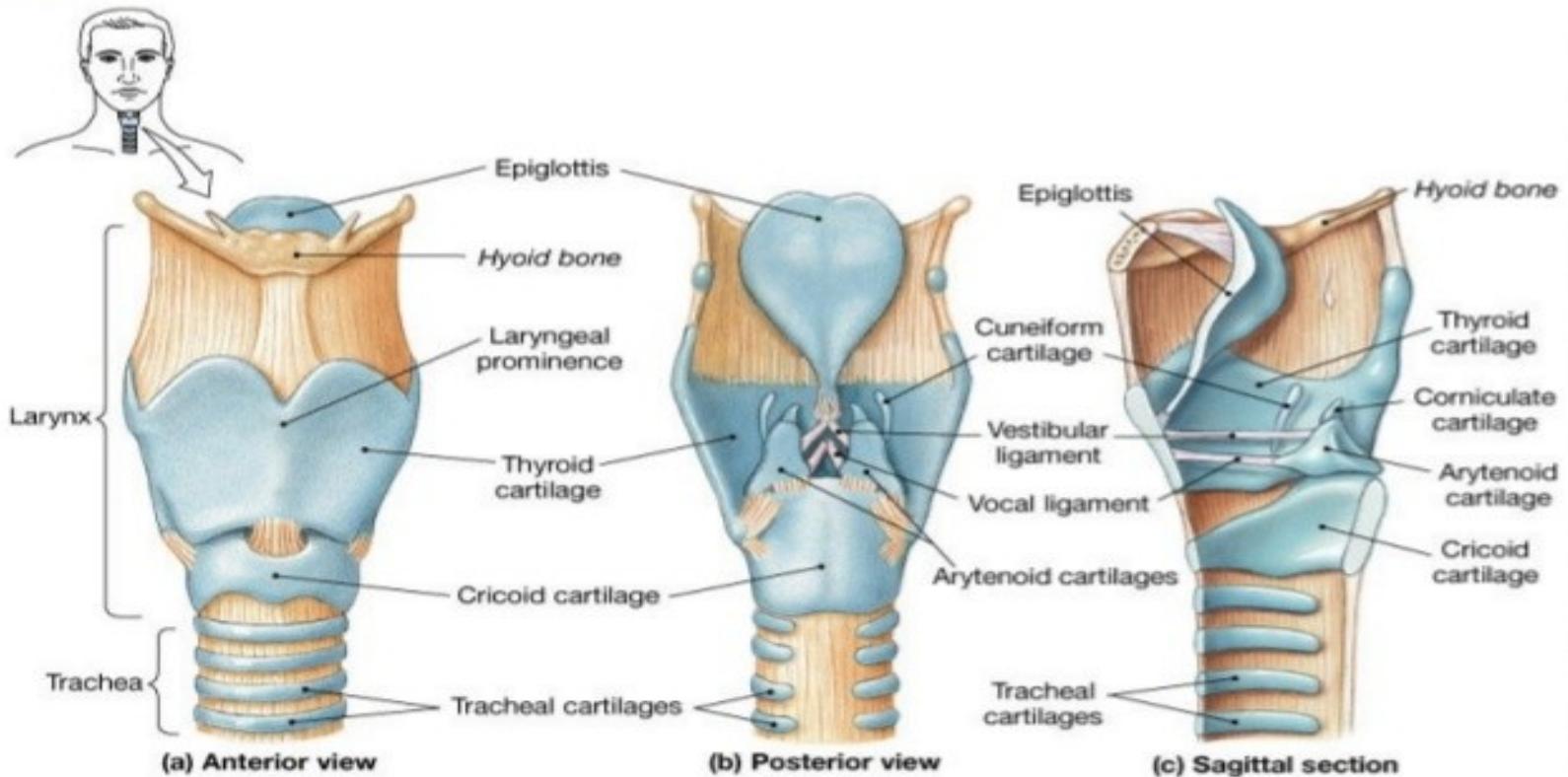


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Anatomy of the larynx



The Anatomy of the Larynx

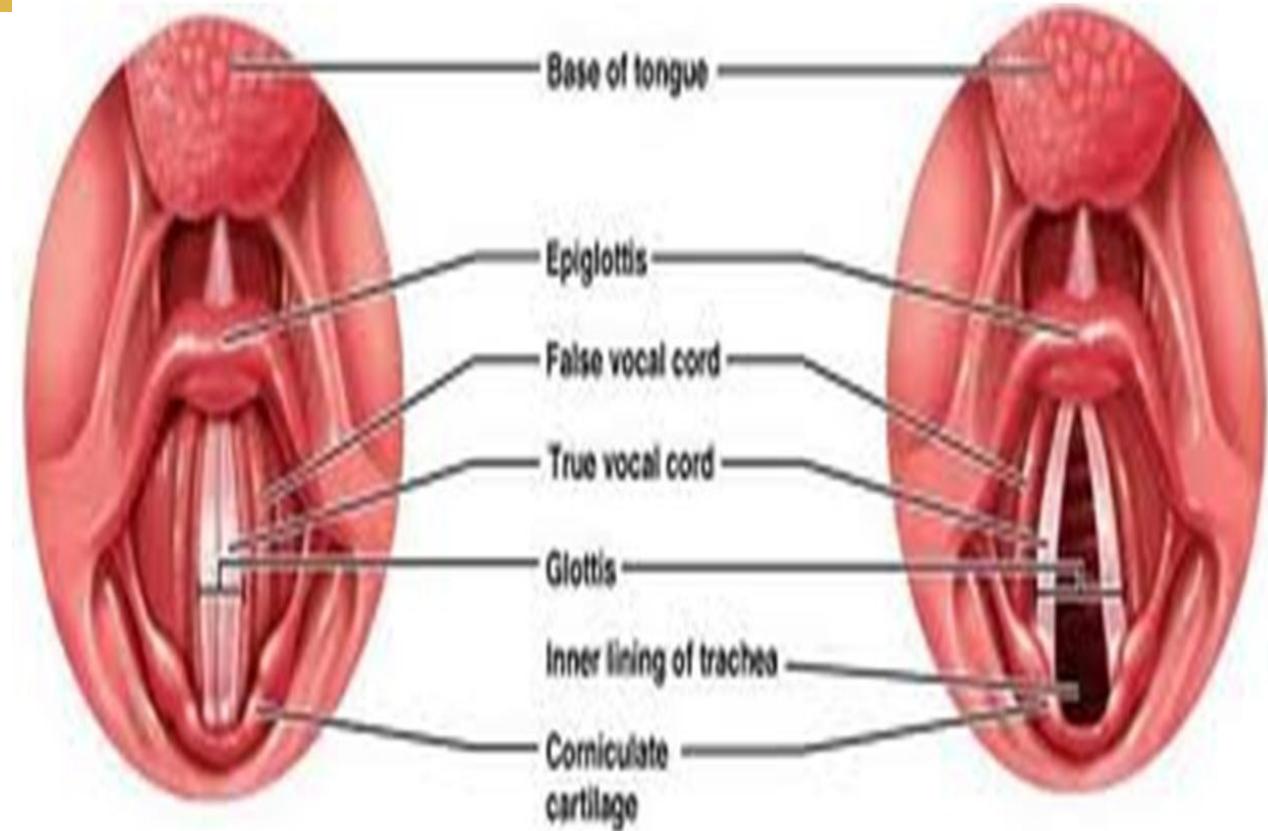
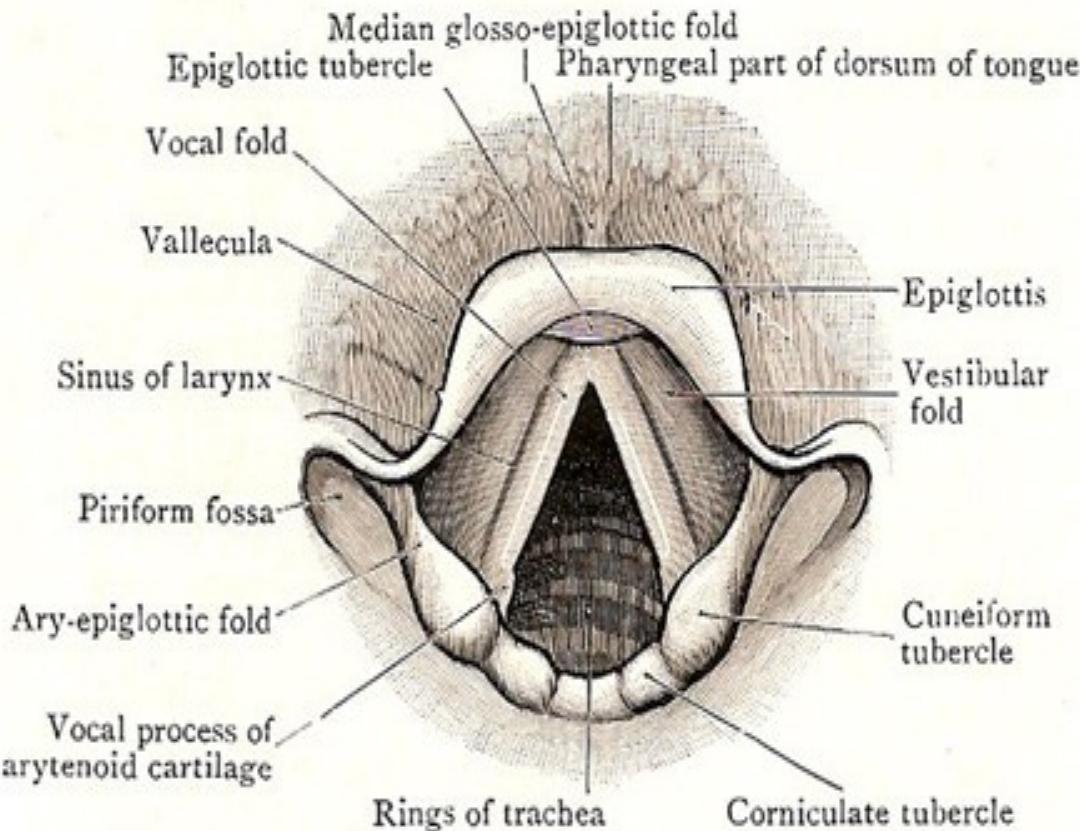


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Figure 23.4

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Anatomy of the larynx



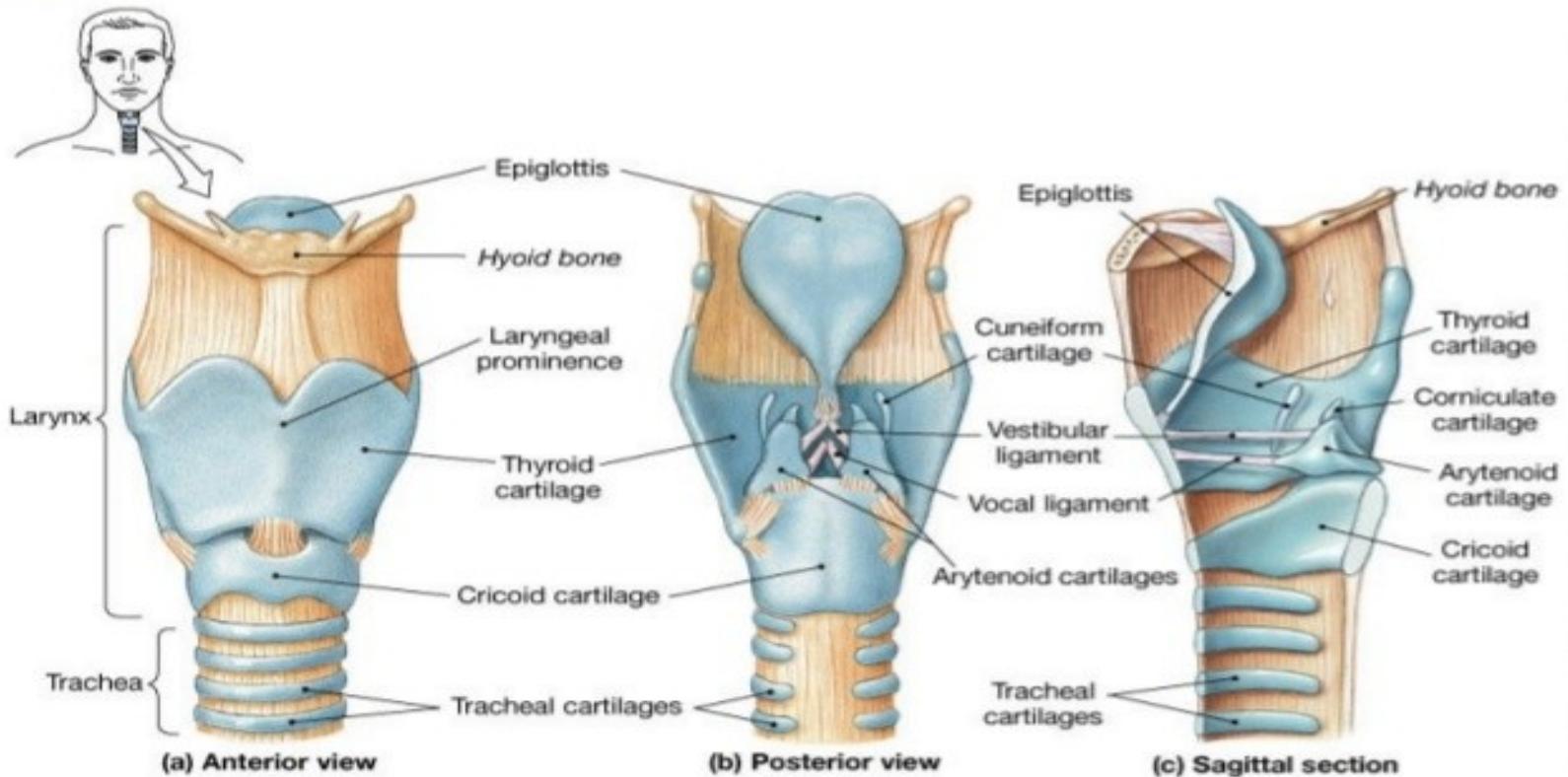
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Anatomy of the larynx



The Anatomy of the Larynx



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Figure 23.4

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Tumors of the larynx



I-Benign tumors:

A- Epithelial tumors: Squamous cell papilloma

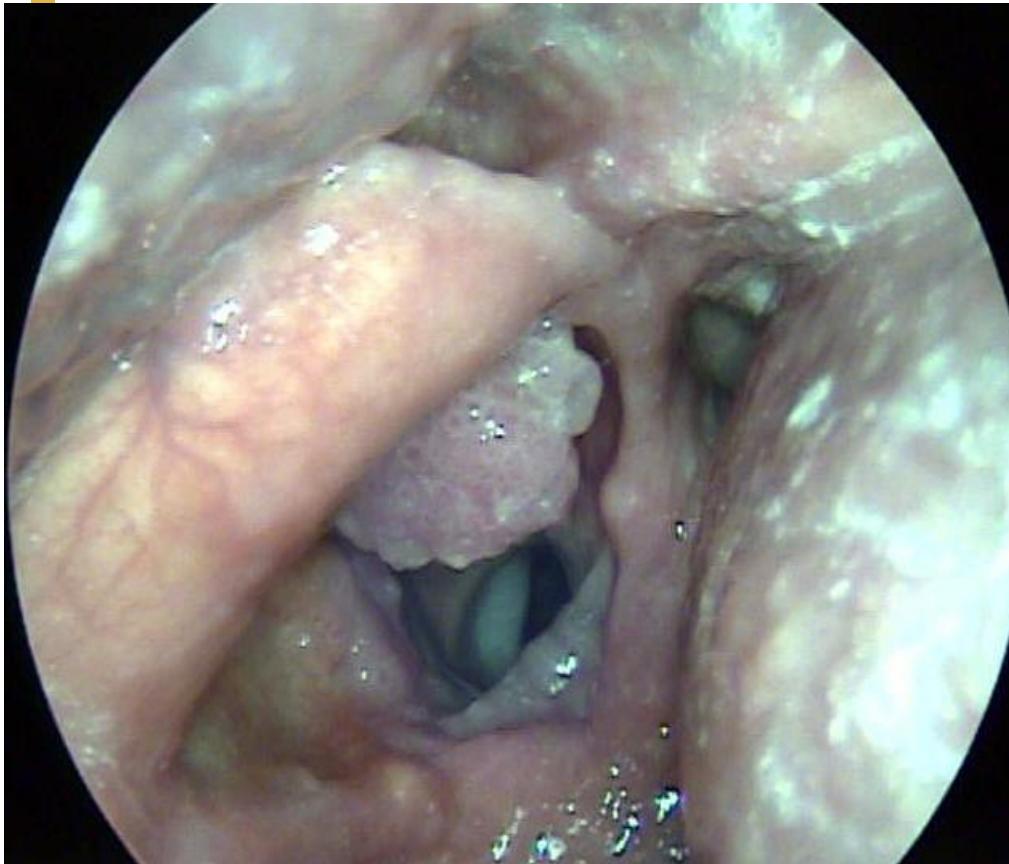
(Mostly due to HPV):

A-Adult papilloma: single, affects vocal cord, truly neoplastic, cured surgically.

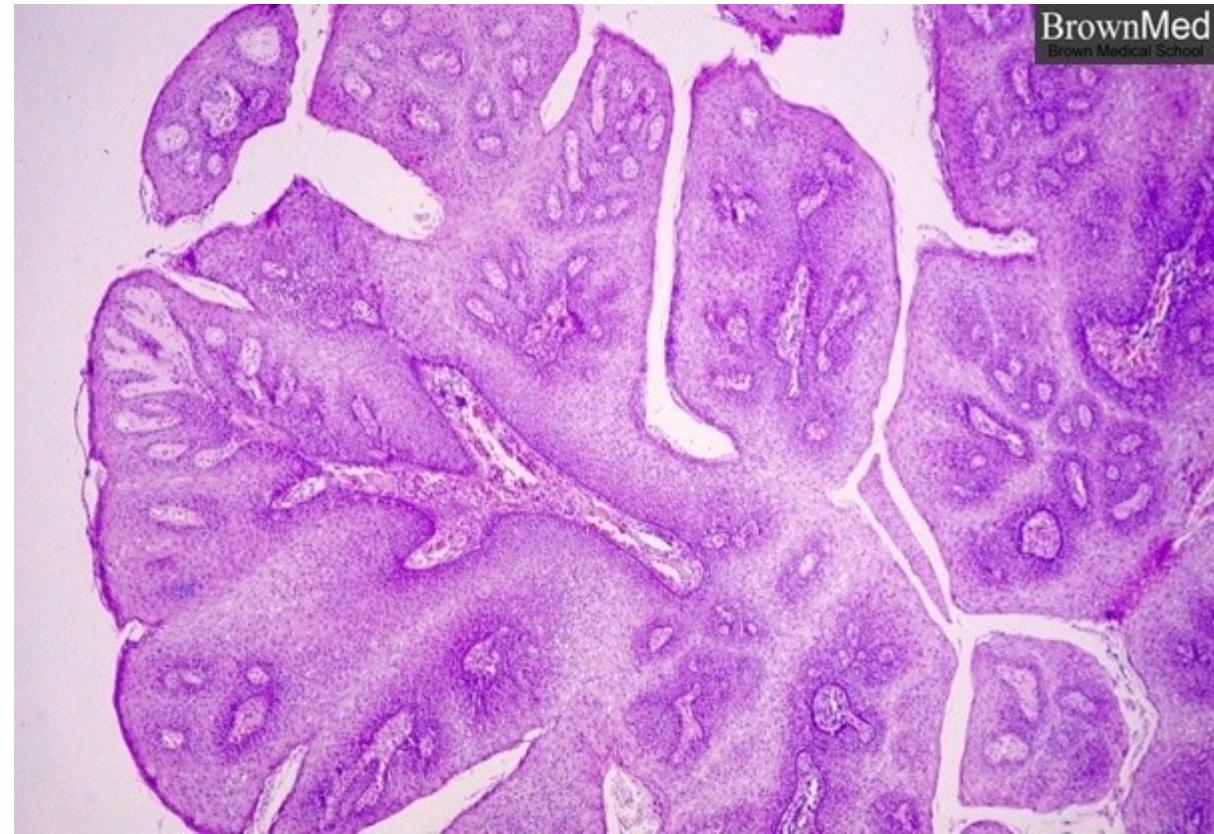
B-Juvenile papilloma: multiple, affecting any site in the larynx, viral in origin (*Human Papilloma Virus HPV*), recurs after excision and regresses after puberty and is very rare to turn malignant.

B- Mesenchymal tumors: Chondroma, fibroma, hemangioma, etc.

Laryngeal papilloma



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Tumors of the larynx



II- Malignant tumors:

Squamous cell carcinoma:

Incidence:

The most common neoplasm of the larynx.

Age: More than 50 years.

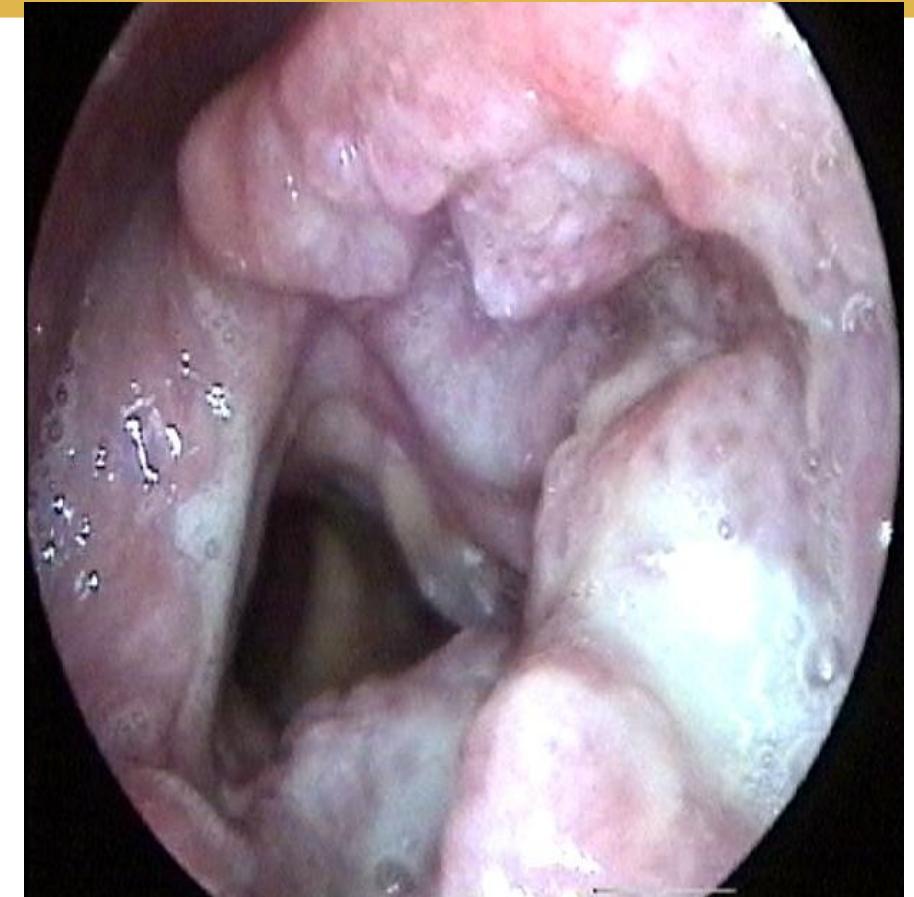
Sex: Male to female 7:1.

Etiology:

- **Predisposing factors:** tobacco smoking, air pollution and exposure to asbestos.

- **Precancerous lesions:**

Dysplasia



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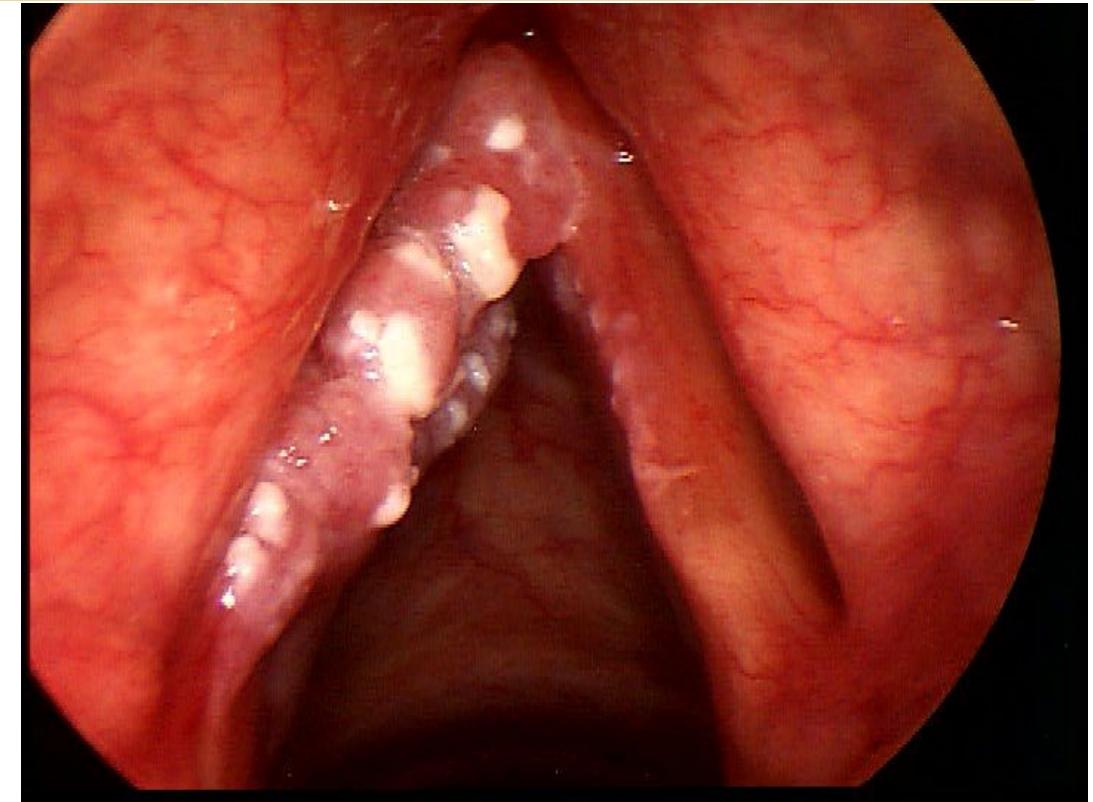
Squamous cell carcinoma of the larynx



Anatomical types:

1- Glottic: (previously called intrinsic type)

- Arising in the true vocal cord, most common.
- It has good prognosis.
- Early detected due to hoarseness of voice, slowly growing, better differentiated, less lymphatic spread, and is easily removed.



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Squamous cell carcinoma of the larynx

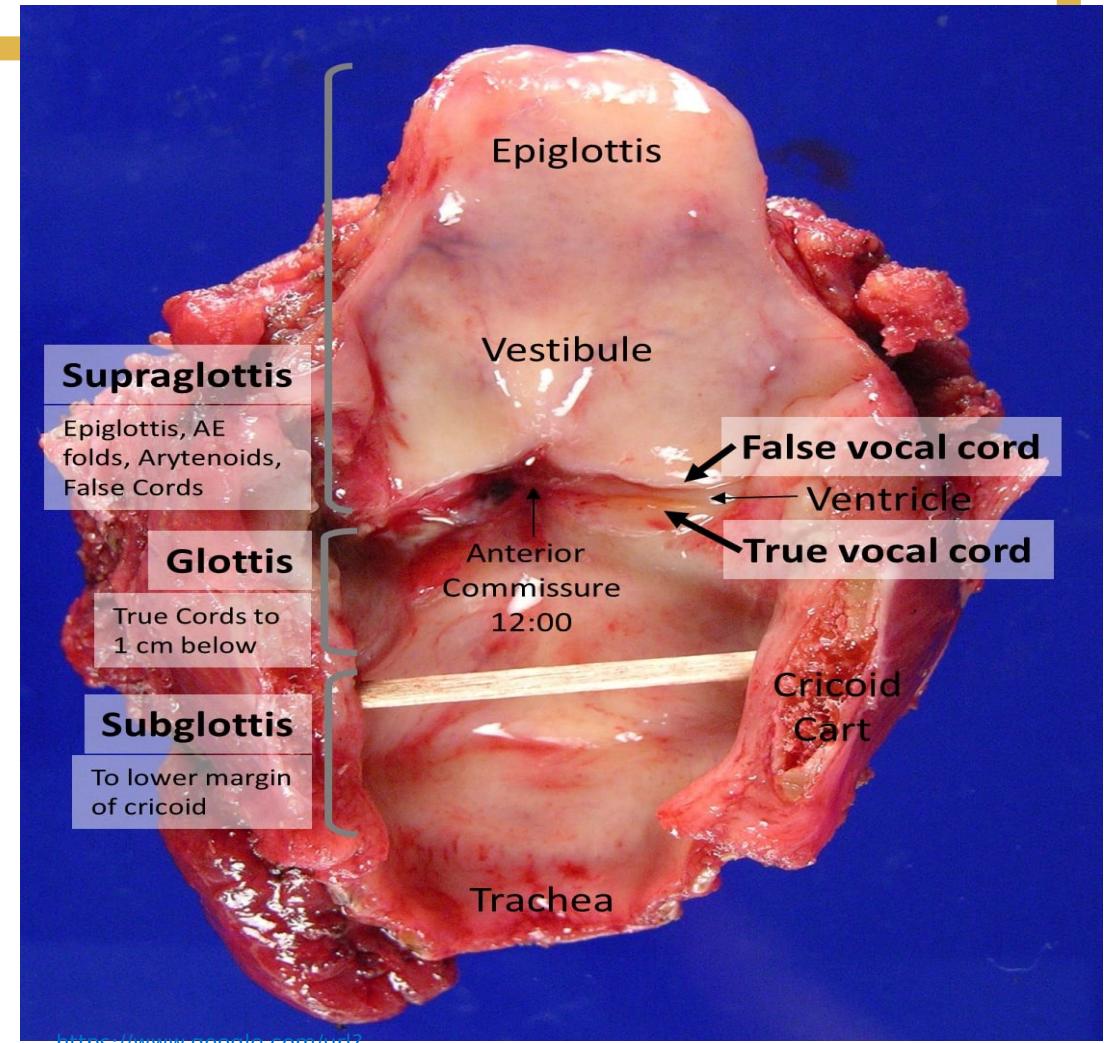


2- Supraglottic: Arising in ventricles and arytenoids.

3- Infraglottic: Arising below the vocal cords. The last two types were previously called collectively as ***extrinsic type***.

4- Marginal zone: between the tip of the epiglottis and aryepiglottic fold.

5- Laryngo-(hypo-)pharynx: pyriform fossa, postcricoid fossa, posterior pharyngeal wall.



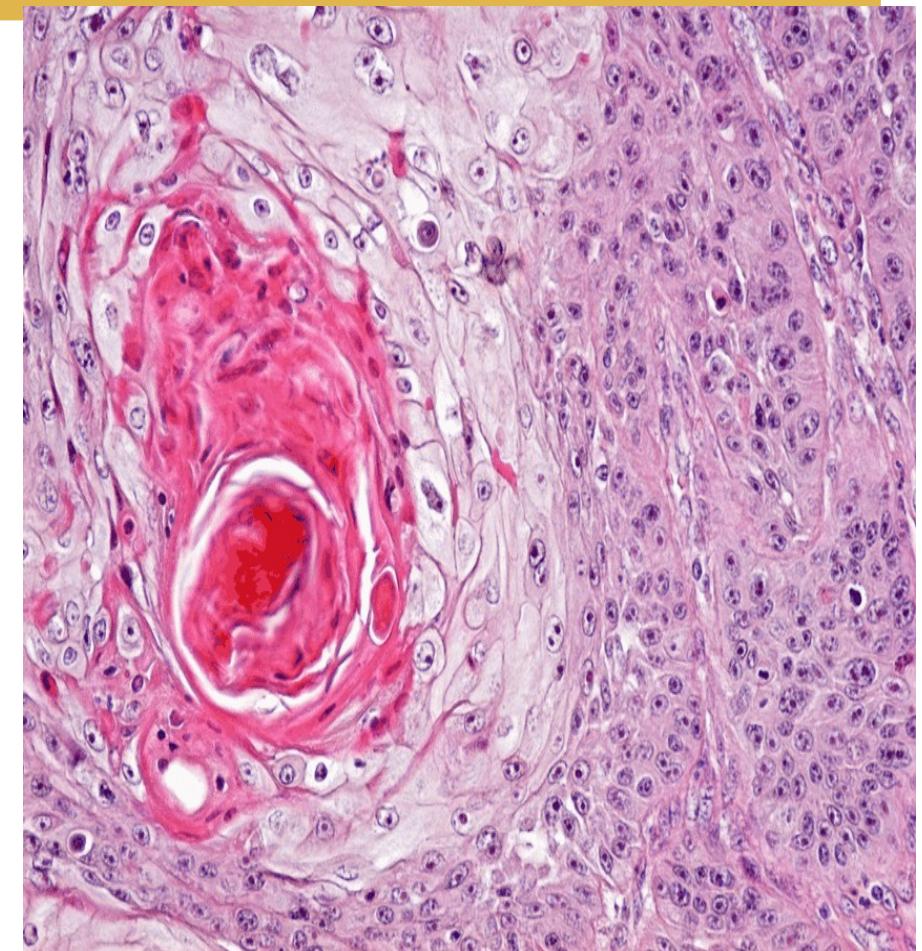
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Squamous cell carcinoma of the larynx

Gross picture: white plaques or nodules then become fungating, ulcerating or infiltrative mass.

Microscopically:

- 1. Well-differentiated squamous cell carcinoma:** in most cases
- 2. Poorly-differentiated squamous cell carcinoma:** occurs in the supra and infraglottic areas.
- 3. Verrucous carcinoma:** a special type of squamous cell carcinoma which is highly differentiated tumor characterized by wart-like exophytic growth and is successfully treated by surgery (***non-invasive carcinoma***).



https://www.researchgate.net/profile/Daniel_Cristian/publication/274168566/figure/fig1/AS:649746997866500@1531923164989/Well-differentiated-squamous-cell-carcinoma-keratinizing-type-HE-staining-200.png

Squamous cell carcinoma of the larynx



Spread:

- 1- Direct.
- 2- lymphatic: to cervical lymph node (Except glottic type because true vocal cords have no lymphatic drainage).
- 3- Blood spread : mainly to the lungs lately.

Lecture Quiz



The virus involved in the pathogenesis of nasopharyngeal carcinoma is:

- a- Human papilloma virus
- b- Epstein Barr virus
- c- Human T cell lymphoma leukemia virus
- d- Cytomegalovirus

Lecture Quiz



The most common type of laryngeal carcinoma is:

- a- Supraglottic
- b- Infraglottic
- c- Marginal zone
- d- Glottic



SUGGESTED TEXTBOOKS

- 1- Kaplan Medical step 1, lecture notes in Pathology: Chapter 14, Respiratory system , pp. 125-143, 2017.
- 2- Hursh Mohan Text Book of Pathology, 7th ed. (2015): Chapter 14, Respiratory system, pp. 442-488.
- 3- Hursh Mohan Text Book of Pathology, 7th ed. (2015): Chapter 15, eye, ENT and neck, pp. 495-500
- 4- Robbins basic of Pathology, 10th ed. (2018): Chapter 13, Lung. pp. 495-549

